Date: Fri, 12 Nov 93 04:30:15 PST
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>
Errors-To: Ham-Ant-Errors@UCSD.Edu
Reply-To: Ham-Ant@UCSD.Edu
Precedence: Bulk
Subject: Ham-Ant Digest V93 #108
To: Ham-Ant

Ham-Ant Digest Fri, 12 Nov 93 Volume 93 : Issue 108

Today's Topics:

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

Date: 11 Nov 1993 08:37:31 CST
From: ftpbox!mothost!schbbs!maccvm.corp.mot.com!CSLE87@uunet.uu.net
Subject: Diamond Dual Band Antennas
To: ham-ant@ucsd.edu

I can't comment on the first part of your query, but there is a simple
rule for the amount of ground plane required for mobile antennas:
The ground plane SHOULD extend at least the length of the antenna in
all directions from the mounting base. In the real world, at least 1/4
wavelength is OK for "gain" antennas, but the H=R idea gets better field
strength and signal reports. Remember that the elevation of the main lob
generally will increase when the ground plane size decreases. 73-Karl
------------------------ Original Article ------------------------
From: chriskel@merle.acns.nwu.edu (J. Burklin)
Subject: Diamond Dual Band Antennas
Followup-To: rec.radio.amateur.antenna
Date: Tue, 09 Nov 1993 00:40:54 -0600

NNTP-Posting-Host: elvex7.acns.nwu.edu

I'm looking to purchase a dual band mobil antenna, a minimum of 5/8
wave on the 2m side. Diamond manufactures several of significant size(i.e.
57 inches or larger) with UHF mounts(SO-239 & PL259). Given the size of the
antenna and anticipated wind load can I expect to see problems with the
mount cracking or breaking off? In addition, Diamond's SG & NR series dual
band mobile antennas reportedly need no grounding. Is this possible or
even suggested with a 5/8 wave. I'm looking specifically at the SG7900 or
the NR-790A. Any recommendations pertaining to these antennas would be
appreciated.
BTW.... What size ground plane does a 5/8 normally need?

Date: Tue, 9 Nov 1993 20:47:16 GMT
From: utcsri!utnut!torn!nott!cunews!freenet.carleton.ca!Freenet.carleton.ca!
aj467@uunet.uu.net
Subject: Diamond Dual Band Antennas
To: ham-ant@ucsd.edu

In a previous article, chriskel@merle.acns.nwu.edu (J. Burklin) says:

>
>   I'm looking to purchase a dual band mobil antenna, a minimum of 5/8
>wave on the 2m side. Diamond manufactures several of significant size(i.e.
>57 inches or larger) with UHF mounts(SO-239 & PL259). Given the size of the
>antenna and anticipated wind load can I expect to see problems with the
>mount cracking or breaking off? In addition, Diamond's SG & NR series dual
>band mobile antennas reportedly need no grounding. Is this possible or
>even suggested with a 5/8 wave. I'm looking specifically at the SG7900 or
>the NR-790A. Any recommendations pertaining to these antennas would be
>appreciated.
>BTW.... What size ground plane does a 5/8 normally need?
>

I can't make any specific recommendations with regard to the ground plane
requirements. What I can tell you is this. I have a Super Gainer Dual Band
Antenna on the minivan. This antenna is now on a huge magmount, it blew of
the Accord one time and was run over at freeway speed, I lost the static
ball off the end of the antenna, and there is a residual kink in the end
of the antenna, when it was put back on the car it still worked. This
antenna has travelled 1000's of miles on two-lane highway at speeds of up
to 140 - 150 Kph. It hasn't blown off with the new magmount. It still
works great. From in the city, and with 20 watts (Kenwood 702) it will
work repeaters some 60 miles line of sight with no great elevation
advantage, and others in the hilly, bushy environments out to about 40
miles line of sight steadily. With picketing and occasional fading I can

work these same areas from the aforementioned 60 miles. Given the
advantage of altitude I can work Plattsburgh New york from Ottawa, on a
regular basis. Distance ... only a guess 100 miles. The higher the better.
Requires ground plane ... can't tell you, but a friend uses one on his
Sport Bike with a handheld.

Hope this helps.

--
Bill VE3NJW   Advanced Amateur
Packet Address : VE3NJW@VE3KYT.#EON.ON.CAN
Freenet Address: aj467@Freenet.Carleton.ca

Date: 10 Nov 93 17:33:42 GMT
From: sdd.hp.com!hpscit.sc.hp.com!icon.rose.hp.com!greg@hplabs.hp.com
Subject: Fixed antennas for satellite work.
To: ham-ant@ucsd.edu

Harvey=P.=Sattin@nectech.COM wrote:
: What, if any, fixed antennas would work best for satellite work?

Depends on the satellite.

My 2 meter J-pole and long wire work fine for RS-10, but you will need something
with lots of gain (i.e. a beam of some sort) for the AO-10/13 high orbit birds.

Greg KD6KGW

Date: 11 Nov 1993 09:47:41 -0800
From: sdd.hp.com!usc!howland.reston.ans.net!cs.utexas.edu!asuvax!chnews!
ornews.intel.com!ornews.intel.com!not-for-mail@network.ucsd.edu
Subject: Ladder Line
To: ham-ant@ucsd.edu

In article <CGBwHx.857@hpqmoea.sqf.hp.com> dstock@hpqmoca.sqf.hp.com (David
Stockton) writes:
> Nice!   I agree with everything (Even the demons), except one thing ...
> Aeroplanes have cockpits, Airships have gondolas (*)

Yes, you have caught one of the errors or missing details of the 'procedure'
described in my original post. Airship gondolas have a wheel house as
well as a radio shack, right? And for best results only a genuine
Zeppelin will do, not just your everyday dirigible. Otherwise how could
you have a true Zepp antenna?

I also failed to mention that the feedline spreaders need to be dipped in
the wax of the African Honeybee which may only be collected
at midnight under a waning moon.

> Apart from the folklore now saying that running open feeder near
>anything conductive will start an exponential reaction (**) resulting in the
>destruction of the universe, a very real possibility is that some people
>have tried using open feeder driven from an unsuitable ATU, and found
>the results disappointing, or even got their fingers burned.

True again. Being the heretic that I am these days, I have resorted to
using the Johnston Matchbox Jr. which directly feeds about 70' of the
Sacrilegious plastic 450 ohm line. I was unable to find a real wobulator
of suitable size, only those dinky ones found in ARC-5 transmitters.
And the open wire feed line so terribly twists itself in the wind that I
just gave up on it finally. Consequently my fingers are now toast, the
mark of a true radioman. These days I must lick my index and middle fingers
before measuring the B+ voltages with them. As a youngster I had always
wondered why the old guy at the radio shop did that when I could draw arcs
so easily with my own tender moist fingers.
The daemons have been tamed ever since I installed the magic toroids up close
on all wires and cables attached to the solid state wonder box. It now only
goes nuts when I use the dual 813 afterburner and run the tubes at the
proverbial Cherry Red. And then only on certain bands such as 20 meters where
the Matchbox sees a high impedance. I'm sure I could reduce the feedline
imbalance if I cut down all my trees and razed my house but I rather enjoy
the feeling of power when the lights dim all over the house just like in
those prison movies. The blue arcs to my lips from the microphone reminds
me that good audio quality cannot be achieved so close.
For my neighbors benefit I have taped a small 4 watt florescent lamp tube
near the end of one of the wires on my VeeBeam. This alerts them that they
need to take their major appliances off line temporarily until my vital
messages have been sent.

--
zardoz@ornews.intel.com WA7LDV

Date: Thu, 11 Nov 1993 13:08:18 GMT
From: library.ucla.edu!agate!spool.mu.edu!sdd.hp.com!hpscit.sc.hp.com!hplextra!
hplb!hpwin052!hpqmoea!dstock@network.ucsd.edu
Subject: Ladder Line (was: 80m on 20m dipole)
To: ham-ant@ucsd.edu

  Nice!   I agree with everything (Even the demons), except one thing

   Please don't interpret this as a flame, especially near your airship

(I recall one movie where an airship was mentioned as containing helium, but was compelled later, by Hollywood logic, to explode in a ball of flame. Clearly, no dirigible is safe)

Aeroplanes have cockpits, Airships have gondolas (*)

Apart from the folklore now saying that running open feeder near anything conductive will start an exponential reaction (**) resulting in the destruction of the universe, a very real possibility is that some people have tried using open feeder driven from an unsuitable ATU, and found the results disappointing, or even got their fingers burned.

Footnotes (to make academics feel comfortable)

* For info on gondolas, see the travellogue by Mr M. Python that accompanied his cinematographic biography of Brian. It is a study on the world distribution of gondolas.

** It is impossible to describe transmission lines without using at least half a page of exponential expressions, e to the power j(something) style. Clearly transmission lines are stuffed full of functions that head off, accelerating, to infinity. There is a readily understandable risk of explosion. DO NOT, under any circumstances, tell anyone that co-axial line is similarly risky, or else there could be panic. The price of copper would collapse and the smell of burning PVC/polythene would pollute the atmosphere.

Cheers
David

Date: 10 Nov 93 16:21:03 GMT
From: sdd.hp.com!hpscit.sc.hp.com!cupnews0.cup.hp.com!jholly@hplabs.hp.com
Subject: Verticals for working DX on 40 and 80?
To: ham-ant@ucsd.edu

jeffrey.n.jones (jeffj@cbnewsm.cb.att.com) wrote:
: I currently have a G5RV up about 20 feet in my backyard and while
: it works fine for domestic work on 40 meters I would like to work
: more DX there. I have heard that the Butternuts and GAP antennas have
: low angles of radiation on 40 and 80 and so should be better for working
: DX. What are my fellow ham's impressions of these antennas? With the
: sunspots going south I could use all the help I can get for these low

: bands! 73!

Your G5RV results are not surprizing. If you run some simulations with a mininec3 type product you discover that most of the radiation is mostly straight up. It was this revelation that prompted me to coil up my 40M inverted vee.

Verticals on the other hand tend to radiate at lower angles. The major disadvantage with verticals is the radials. To have an effective antenna, one must run some radials out. I have a ground mounted Butternut HF-2V, 16 radials 25 foot long. It seems to be very good on 40, less than so-so on 80. On 40 it is a quarter wave, 80 is around eighth wave so that is not to supprizing. On a small city lot the options are somewhat limited, but I think the HF-2V is a much better choice than an G5RV. I've heard the GAP's are kinda flimsy, but never seeing one I can't say for sure. The HF-2V is fairly straight forward, a bunch of 4 foot aluminum, a couple aluminum coils, a couple straps, and a couple door knob caps. Easy up, the instructions are good and easy to read. Hardware is very good, all stainless. I got a couple extra of the shorting clips and put taps on the 80 meter coil. No tap for CW, one tap for 3600(rtty) and one tap for 3780, (DX fone and Geritol net). The band width is about 30-40khz. But when I get the 30 meter coil off and put on a top hat that should get better.

Jim Hollenback, WA6SDM
jholly@cup.hp.com

Date: 11 Nov 93 16:29:47 GMT
From: ogicse!hp-cv!hp-pcd!hpcvsnz!tomb@network.ucsd.edu
Subject: What's RG-22?
To: ham-ant@ucsd.edu

Doug Braun (dbraun@iil.intel.com) wrote:

: I was at this surplus electronic junk place, and they
: had a big spool of "RG-22" coax cable. I couldn't
: tell much about it, except that it seemed to resemble
: RG-8. None of my references (ARRL Handbook, Antenna Book, etc.)
: mention this type of cable. Anyone ever heard of it?

RG-22/U: twin conductor (you didn't notice that??) double
braid shielding. 95 ohms (between the balanced conductors).
You might be able to use it as coax by connecting the two
conductors together, but why bother...

Date: Thu, 11 Nov 1993 17:01:51 GMT
From: sdd.hp.com!cs.utexas.edu!howland.reston.ans.net!sol.ctr.columbia.edu!
news.kei.com!ub!csn!yuma!galen@network.ucsd.edu
Subject: What's RG-22?
To: ham-ant@ucsd.edu

In article <2brd7a$q4a@ilx049.intel.com> dbraun@iil.intel.com (Doug Braun) writes:
>I was at this surplus electronic junk place, and they
>had a big spool of "RG-22" coax cable. I couldn't
>tell much about it, except that it seemed to resemble
>RG-8. None of my references (ARRL Handbook, Antenna Book, etc.)
>mention this type of cable. Anyone ever heard of it?
>Thanx in advance,
>Doug Braun   Intel Israel, Ltd.   M/S: IDC1-41
>4X/N1OWU   Tel: 011-972-4-655069   dbraun@inside.intel.com

I can't find it in either the Belden catalog or the Reference Data for
Engineers.

Who makes it? Any other numbers, etc on the jacket?
galen,KF0YJ

Date: 11 Nov 93 09:37:28 CST
From: timbuk.cray.com!walter.cray.com!ned.cray.com!cbetz@uunet.uu.net
To: ham-ant@ucsd.edu

References <CGAAr2.F14@ncifcrf.gov>, <CGArCy.77w@ryn.mro4.dec.com>,
<2brvcd$hem@ornews.intel.com>walt
Subject : Re: Modify a TV antenna?

In article <2brvcd$hem@ornews.intel.com>, zardoz@ornews.intel.com (Jim Garver)
writes:

   [other previous poster's names deleted]

> >>Assuming the point is to have a 2m antenna, rather than the object being
> >>to modify an existing antenna, why not get a design (somewhere, ARRL handbook
> >>if nowhere else), by the boom feedthroughs and brackets from say Rutland
> >>Arrays (advertise in QST, Tom says he sells the hardware if you want it),
> >>buy some 6061 Al tubing and rod from your local metal tubing supply
>   ^^
> Ha! Have you ever tried this? They are NOT interested in your puny order
> and will let you know in no uncertain terms when you are quoted the cost of
> a single rod or you are brought to understand their minimum order terms.

> I was quoted $80 for a small tube as an example. I now buy all the busted
> and broken antennas at swap meets for their metal.

Yes, you are correct about buying from local suppliers. However if you are interested in buying new aluminum for antenna building projects, Texas Towers sells aluminum rod & tubing at very good rates. If you can live with 6 foot lengths (probably not a problem unless you are building monster HF beams), it is UPS shippable. Though not advertised, they also sell stainless steel keepers and plastic insulators for 3/16" rod (if you are building vhf/uhf antennas) for better prices than most other places. Personally, I think the black delrin insulators that Rutland Arrays sell are a little better, but their prices are too high. Texas Tower's prices are about 1/2 the cost.

I just finished building four 2m antennas and a stacking frame for an EME array. All the aluminum was purchased from Texas Towers. The total cost (aluminum, insulators, keepers, etc.) was under $200. It's all good quality stuff too: 6061-T1 aluminum (6083-T832 is also available).

I should point out that I have no connection whatsoever with Texas Towers. I'm just a satisfied customer.

Charlie Betz N0AKC
Cray Research, Inc.   Chippewa Falls, WI

Date: Thu, 11 Nov 1993 17:45:18 GMT
From: sdd.hp.com!spool.mu.edu!darwin.sura.net!fconvx.ncifcrf.gov!fcs260c!mack@network.ucsd.edu
To: ham-ant@ucsd.edu

References <CGAAr2.F14@ncifcrf.gov>, <CGArCy.77w@ryn.mro4.dec.com>, <2brvcd$hem@ornews.intel.com>ma
Subject : Re: Modify a TV antenna?

Lots of people talking about the difficulties of finding Aluminium tubing for antennas...

In article <2brvcd$hem@ornews.intel.com> zardoz@ornews.intel.com (Jim Garver) writes:
>In article <CGArCy.77w@ryn.mro4.dec.com> randolph@est.enet.dec.com (Tom Randolph) writes:
>>
>>In article <CGAAr2.F14@ncifcrf.gov>, mack@fcs260c.ncifcrf.gov (Joe Mack) writes...
>>>Arrays (advertise in QST, Tom says he sells the hardware if you want it),
>>>buy some 6061 Al tubing and rod from your local metal tubing supply

> ^^
>Ha! Have you ever tried this? They are NOT interested in your puny order
>and will let you know in no uncertain terms when you are quoted the cost of
>a single rod or you are brought to understand their minimum order terms.
>I was quoted $80 for a small tube as an example. I now buy all the busted
>and broken antennas at swap meets for their metal.
>
>>Yah, I think if I were to do it over, I'd just buy the tubing and build it.
>>Drilling out all those rivets was a fair amount of work.
>
>Well good luck finding the tubing.>>--
>zardoz@ornews.intel.com WA7LDV

Sorry that you're having so much trouble finding Al tubing. There are 2 stores around here that sell pieces, so I didn't realise that others had such problems. Since you're in Oregon, I suggest you call Dillsburg Aircraft Works (don't have phone number, it's just nth of Gettysburg in PA, if you can't find the # e-mail me directly and I'll get it for you, mack@ncifcrf.gov). The proprietor is an old guy with the name Vogelsong and he is most helpful. He has a whole lot of youths working for him who aren't quite so helpful and appear to be there just to move stuff around.
 Despite the name DAW is a big shed whose whole function appears to be to get Al tubing (square, round and everything else) from whereever in huge amounts and mail it out to people doing one off jobs, which from the looks of the photos on the walls and testimonials from happy customers, is making dragsters and light aircraft. So there's guys pakcing this stuff into 12' long cardboard mailing tubes of all diameters. All their tubing telescopes, so just ask for a catalogue or tell him what you want over the phone. You're going to want 6061 tubing of say 1-1&1/4" OD with 0.085 walls. Tom of Rutland Arrays put me onto these guys and I've bought about $400 of stuff from them so far.

 Another source of hardware is AntennaCo of Milford CT (again don't have ph# with me but e-mail if you can't find it by dir asst). The owner is Joe Reissert, ham columnist and moonbouncer of long standing who used to work for Cushcraft. They have their own line of square boom stuff and brackets and mounting hardware to put Al rod on top (rather than through) the boom. They also have brackets and mounting plates for putting booms onto masts etc. When you phone up, you'll probably get Nate, who is not a ham, but who is a nice guy and will be helpful. Just explain that you want to make an antenna (yagi) and ask them what they have (they have premade ones, so tell him that you want to make your own). They're just starting up and so they haven't figured out yet what hams want of all the stuff they have, so I don't think they have catalogues with drawings yet. Anyhow I have lots of their brackets and boom mounting plates and I think they're just great. (I have round booms so I don't use thier square boom stuff).

I've bought stuff from Tom of Rutland arrays. I have not bought his through boom mounts, but he says he sells them. I'm sure you could buy a 2m driven element with hairpin feed on it already, if you want to make things easier for yourself.

All the best.

Joe Mack (NA3T)
mack@ncifcrf.gov

End of Ham-Ant Digest V93 #108
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